

**PRIOR RECLAMATION INSPECTION REPORT
AND
RECOMMENDATION FOR RELEASE OR PERMIT
REQUIREMENT**

Santa Fe Pacific Gold Corporation

**Submitted in Partial Fulfillment of New Mexico Mining Act
Section 69-36-7 U., Prior Reclamation**

**New Mexico Energy, Minerals and Natural Resources Department
Mining and Minerals Division
Mining Act Reclamation Bureau**

September 29, 1995

Introduction

The purpose of this study was to determine if reclamation measures at 11 mines, for which Santa Fe Pacific Gold Corporation requested prior reclamation inspections, satisfy the requirements of the New Mexico Mining Act and substantive requirements for reclamation pursuant to the New Mexico Mining Act Rules. The sites are tabulated in Table I. Figures 1 and 2 are maps showing the locations of the mine sites.

Santa Fe Pacific Gold Corporation (Santa Fe) is the owner of the mineral rights at all the mine sites mentioned above, with the possible exception of the mine on Section 17 T13N R9W. Santa Fe Pacific Gold was not the operator any of the sites, but has reclaimed the sites (Santa Fe, 1994) in an effort to remove any further liabilities relative to the New Mexico Mining Act. Neither is Santa Fe the surface owner of any of the sites. This has hindered reclamation activities because Santa Fe cannot restrict grazing by surface owners on reclaimed areas. The known surface owners are listed in Table I.

Table I
Santa Fe Pacific Gold Corporation Prior Reclamation Inspection Sites

Name of Mine	Location of Mine	Operator	Surface Owner	Inspected
Unknown	SW1/4 Section 13 T13N R11W	Todilto Exploration	Cerrillos Land Company	Aug. 31, 1995 Young & Tierney
Unknown	Section 13 T1N R6W	M. P. Grace	Unknown	Sept. 21, 1995 Young & Shepherd
Unknown	Section 1 T13W R9W	Kerr-McGee	Sonny Marquez	Sept. 13, 1995 Young & Martinez
Unknown	Section 17 T13N R9W	United Nuclear Corp.	Unknown	Could not be located in field
Haystack	Section 19 T13N R10W	Todilto Exploration	S. Farthree and McKingen	Aug. 31, 1995 Young & Tierney
Section 25 Mine	Section 25 T13N R10W	Reserve Oil and Minerals	S. Berryhill Ranch	Aug. 31, 1995 Young & Tierney
Unknown	Section 31 T13N R9W	United Nuclear Corp.	Unknown	Aug. 31, 1995 Young & Tierney
Faith Mine	Section 29 T13N R9W	Ranchers Exploration	Unknown	Aug. 31, 1995 Young & Tierney
Isabella Mine	Section 7 T13N R9W	Ranchers Exploration	Unknown	Aug. 31, 1995 Young & Tierney
Marquez Mine	Section 23 T13N R9W	United Nuclear Corp.	Sonny Marquez	Aug. 31, 1995 Young & Tierney
Poison Canyon Mine	Section 19 T13N R9W	Reserve Oil and Minerals	Cerrillos Land Company	Aug. 31, 1995 Young & Tierney

Inspection Procedures

On August 31, 1995 Santa Fe Pacific Gold escorted MMD personnel on a quick inspection of 8 of 11 sites for which Santa Fe submitted prior reclamation inspection requests. Ms. Denise Gallegos, Manager-Environmental Compliance and Audits, Mr. Paul Eby, Director-Field Operations, Mr. Lee Simpkins and Mr. Larry Taylor, Contractor, represented Santa Fe Pacific Gold Corporation. Mr. Robert Young, Environmental Engineer and Dr. Robyn Tierny, Reclamation Specialist represented the New Mexico Mining and Minerals Division. On September 12 Mr. Robert Young and Mr. Fernando Martinez, Reclamation Specialist revisited six of the above sites to take additional measurements. The site on Section 1 T13W R9W was inspected on September 13 by Mr. Robert Young and Mr. Fernando Martinez, Reclamation Specialist. Another site on Section 13 T1N R6W was inspected September 21, 1995 by Robert Young and Holland Shepherd, Mining Act Bureau Chief. Santa Fe Pacific Gold did not attend the inspections of the sites on

Sections 1 T13W R9W or Section 13 T1N R6W. Another site on Section 17 T13N R9W, for which a prior reclamation inspection was requested (Santa Fe, 1994), was searched for, but could not be found. Without an inspection of the site, no evaluation could be made regarding prior reclamation status.

Inspections of each mine site consisted of a review of information submitted by the mine operator, subsequent discussion with the operator pertaining to mining and reclamation at each site, inspection of the condition of the reclaimed mine sites, line-intercept sampling for estimates of vegetative cover, compilation of plant species lists, measurement of reclaimed soil depths, and photo-documentation. Each of the mine sites were visually inspected for erosion features and hydrologic stability. During a walkover of each site, all slopes, areas of water concentration (ponds, diversions and areas where disturbed areas enter undisturbed lands) were visually inspected for stability. Topsoil placement and distribution also was evaluated at each site. Sampling for topsoil depth consisted of randomly digging a series of holes to identify the depth of topsoil and the presence or absence of potentially toxic wasterock at rooting depth. Grading of all wasterock piles and borrow areas was visually inspected. Placement and closure of portals and vent shafts was verified in the field.

The establishment and relative percent cover of reseeded and native plant species were evaluated in randomly placed transects. Fifty foot transects were evaluated at each mine site using the line intercept method (Bonham 1989). These transects were used to estimate the relative percent cover of each plant species intercepted at 3' intervals along a transect. A total of 17 points per transect were recorded. In addition, a list of species present within a 50' X 6' belt transect adjacent to each transect was compiled. These sampling procedures, however, do not meet sample adequacy. Rather, these procedures were conducted to estimate the relative percent cover and to evaluate the diversity of species present at each of the eight mine sites. Additional resources would be needed to fully evaluate the vegetation of these prior reclamation sites to a level of sample adequacy and would require at least 24 additional man-hours of inspection time per site. Where it was obvious that sufficient vegetation existed on site, or insufficient vegetation existed, no transect evaluations were made. Photos were taken, in these situations, to document the vegetation cover.

Results and Discussion

SW1/4 Section 13 T13N R11W

This was a surface mine, located approximately 27 miles north west of the City of Grants, New Mexico. The mine is characterized by red Entrada Sandstone cliffs that tower above it. The uranium mineralization occurred in Todilto Limestone just below the Entrada Sandstone. A barbed wire fence surrounded the site. All structures, trash or junk had been removed from the site. There were no piles or accumulations of toxic or waste material on the site. There were no apparent hazards that could effect public health and safety. Photos documenting vegetation and the general condition of the site are in Appendix A. The site was reclaimed in 1994 and reseeded in the fall of 1994 by Santa Fe Pacific Gold (Eby, 1995). The regrading included, at the request of the surface owner, the construction of six depressions to impound rainwater for livestock (Eby, 1995). There were minor rills from water flowing into these depressions. Topsoil depths across the site averaged 6 inches.

Cattle, sheep, goats, and wildlife have heavily grazed the reclaimed portions of this site and the vegetation showed signs of drought stress. Line-intercept transects showed perennial cover to be approximately 12 percent (Tierney, 1995). The results of the vegetation measurements are presented in Table II. This site was evaluated as having an insufficient vegetation cover to qualify for release.

TABLE II
SW1/4 Section 13 T13N R11W Vegetation Measurements

Visual	Transect
<i>Ambrosia dumosa</i>	BG
<i>Papaver</i> sp.	BG
<i>Oryzopsis hymenoides</i>	BG
<i>Cleome serrulata</i>	<i>Atriplex canescens</i>
<i>Atriplex canescens</i>	BG
<i>Gutierrezia sarothrae</i>	BG
	BG
	BG
	BG
	BG
	BG
	BG
	BG
	BG
	BG

	BG
	<i>Oryzopsis hymenoides</i>
	Rock

Average Perennial Cover = 12%

Rock Cover = 6%

Section 13 T1N R6W

This was a surface mine, located approximately 36 miles north west of the City of Magdalena, New Mexico. The site is within a mile of the Alamo Navajo Indian Reservation. Uranium bearing sandstone was contoured along an outcrop in the side of Jaralosa Creek Canyon. The operator, M.P. Grace, operated the mine under a lease from then Santa Fe Pacific Minerals Corporation. The lease was terminated in 1979 and the site was reclaimed in 1980 (Santa Fe, 1994). The total area of disturbance was about 2 acres.

While it was difficult to locate the mine site, there were several small waste piles. Natural vegetation had successfully reestablished itself such that the waste piles were nearly indistinguishable from the natural mounds and ridges along the canyon. The location of the mine was located by a red clay that had been uncovered in one pit and was out of place. There was moderate erosion, but the erosion was consistent with that of the surrounding area. A powder magazine, circa 1970's, was left as a mining relic. All other structures, trash and junk had been removed. There were no piles or accumulations of toxic or waste material. There were no apparent hazards that could effect public health or safety.

The site and surrounding area showed signs of grazing impacts. Plant diversity, however, was good with more than 21 native plant species identified on the site. It was very difficult to distinguish this site from the adjacent undisturbed areas, so no transect evaluation was deemed necessary. Photographs documenting vegetation and the general condition of the site are presented in Appendix B. Because of the quality of cover and diversity of plants found on the site, it qualifies for release.

Section 1 T13W R9W

This mine site is located on a shelf in a canyon wall about 50 feet above the canyon floor. The canyon was eroded into Dakota Sandstone. The mine had been operated by Kerr-McGee under a lease agreement with Santa Fe Pacific Gold and was safeguarded by Kerr-McGee upon termination of that agreement (Santa Fe, 1994). All structures, trash or junk had been removed from the site. There were no piles or accumulations of toxic or waste material on the site. A vertical shaft had been backfilled with nontoxic mine waste material.

Essentially, the site had been safeguarded but not topsoiled or reseeded. The site is characterized by white fine grained sandstone covered by a few inches of fine white sand. The sand is subsequently being eroded away by wind and water. A mine access road had significant erosion. An impoundment had been constructed to impound sediment from the mine site, however, erosion from the access road was bypassing the impoundment and was entering the mine site. Photographs documenting vegetation and the general condition of the site are presented in Appendix C.

Some native plant species from adjoining areas were invading the disturbance area. Line-intercept transects indicated vegetation cover to be approximately 29 percent (Young, 1995). Vegetation measurements are presented in Table III. Vegetation on this site is dominated by hairy goldenaster (*Heterotheca villosa*), an unpalatable increaser. Indian ricegrass (*Oryzopsis hymenoides*), was also found growing sparsely on the site. Given the sandy nature of these soils, stands of Indian ricegrass and sand dropseed (*Sporobolus cryptandrus*) should be more prevalent here. Because of the overall lack of diversity and the poor establishment of perennial grasses and forbs, this site does not qualify for release.

TABLE III
Section 1 T13W R9W Vegetation Measurements

Visual	Transect #1	Transect #2
<i>Gutierrezia sarothrae</i>	BG	<i>Heterotheca villosa</i>
<i>Atriplex canescens</i>	BG	BG
<i>Oryzopsis hymenoides</i>	BG	<i>Heterotheca villosa</i>
<i>Heterotheca villosa</i>	BG	<i>Oryzopsis hymenoides</i>
	BG	<i>Heterotheca villosa</i>
	BG	<i>Heterotheca villosa</i>
	BG	BG
	<i>Heterotheca villosa</i>	BG
	BG	<i>Oryzopsis hymenoides</i>
	BG	BG
	<i>Heterotheca villosa</i>	BG
	BG	<i>Heterotheca villosa</i>
	BG	Bedrock
	BG	Bedrock
	Rock	BG
	<i>Heterotheca villosa</i>	BG
	Rock	BG

Average Vegetative Cover = 29%

Section 17 T13N R9W

This site was not shown to MMD staff by Santa Fe Pacific Gold personnel and could not be located in the field. Presumably, the site has been reclaimed (Santa Fe, 1994). However, without a formal inspection of this mine site, no evaluation could be made by MMD personal regarding the mine's prior reclamation status.

This site cannot be released at this time.

Haystack Mine (Section 19 T13N R10W)

This mine was the original Paddy Martinez discovery. It was a surface mine located approximately 27 miles north west of Grants, New Mexico. The mine was operated under an agreement with Santa Fe Pacific Minerals Corporation. The uranium mineral was found in the Todilto Limestone. Santa Fe Pacific Gold began reclamation of this site in 1990 under an Environmental Protection Agency (EPA) action that concluded in 1991 (Santa Fe, 1994). At the time of this inspection, Santa Fe claimed to have a letter of release from the EPA (Gallegos, pers. comm.), and indicated that a copy would be sent to MMD. However, MMD never received this copy.

A barbed wire fence surrounded the site. All structures, trash or junk had been removed from the site. There were no piles or accumulations of toxic or waste material on the site. There were no apparent hazards that could effect public health or safety. There were no erosion features. Photographs documenting the vegetation and the general condition of the site are presented in Appendix E. Topsoil depths across the site ranged from four to six inches.

Grazing by domestic livestock and wildlife have had some impact on the vegetative cover of this reclaimed site. Most of the reclaimed area had been heavily grazed and showed signs of drought stress. Line-intercept transects showed perennial cover to be approximately 32 percent and litter cover 18 percent (Tierney, 1995). Vegetation measurements are presented in Table IV. Because of the perennial quality of plant cover and diversity on this site, staff recommends it for release.

TABLE IV
Haystack Mine Vegetation Measurements

Visual	Transect #1 North side of	Transect #2 On Wasterock
<i>Atriplex canescens</i>	BG	BG
<i>Chrysothamnus nauseosus</i>	<i>Bouteloua gracillis</i>	<i>Bouteloua gracilis</i>
<i>Sporobolus cryptandrus</i>	<i>Bouteloua gracillis</i>	Litter
<i>Juniperus monsperma</i>	BG	<i>Atriplex canescens</i>
<i>Ambrosia dumosa</i>	<i>Bouteloua gracilis</i>	BG
<i>Kochia scoparium</i>	<i>Oryzopsis hymenoides</i>	<i>Oryzopsis hymenoides</i>
<i>Mirabilis</i> sp.	<i>Oryzopsis hymenoides</i>	BG
<i>Phlox</i> sp.	Litter	BG
<i>Mentzelia pungens</i>	<i>Salsola kali</i>	BG
<i>Salsola kali</i>	Litter	BG
<i>Bouteloua gracilis</i>	BG	BG

<i>Oryzopsis hymenoides</i>	BG	BG
	Litter	<i>Bouteloua gracilis</i>
	<i>Agropyron</i> sp.	<i>Sporobolus cryptandrus</i>
	<i>Oryzopsis hymenoides</i>	<i>Oryzopsis hymenoides</i>
	Litter	Litter
	Litter	Litter

Average Perennial Cover = 32%

Litter Cover = 21%

Section 25 Mine

The Section 25 mine is located 14 miles northwest of Grants, New Mexico. This 8-acre site was a surface mine operated by Reserve Oil and Minerals. It was reclaimed and reseeded by Santa Fe Pacific Gold in 1993. Additional reclamation activities were performed in 1994. A barbed wire fence surrounded the site. All structures, trash or junk had been removed from the site. There were no piles or accumulations of toxic or waste material on the site. There were no apparent hazards that could effect public health and safety. There were several topsoil mounds left by Santa Fe because small mammals had extensively burrowed into them and were using them for habitat. Photographs documenting the vegetation and the general condition of the site are presented in Appendix F. The regrading included construction of three large depressions that impounded rainwater for livestock. There was one significant erosion feature and several areas of minor erosion on the sides of these depressions. Topsoil depths across the site were greater than 12 inches. An earthworm found while measuring soil depths at this site is a good sign that the soils are generally non-toxic.

Portions of the reclaimed vegetation have heavily grazed by wildlife and domestic livestock. However, native plant species were invading the area. Twenty-six native species of plants were identified. Line-intercept transects showed average perennial vegetation cover to be approximately 22 percent (Young, 1995). Vegetation measurements are presented in Table V. Despite the slight increase in the number of perennial species invading this site from adjacent areas, there was poor establishment of the perennial grasses, forbs, and shrubs on the slopes of the depressions and topsoil mounds. Because of the lack of adequate cover, this site does not qualify for release at this time.

TABLE V
Section 25 Mine Vegetation Measurements

Visual	Transect #1 West Depression (Soil Depth +1')	Transect #2 Middle of Site (Soil Depth +1')	Transect #3 East Side of Site (Soil Depth +1')
<i>Mirabilis multiflora</i>	BG	BG	<i>Oryzopsis hymenoides</i>
<i>Aster</i> sp.	<i>Erigeron</i> sp.	BG	BG
<i>Lepidium</i> sp.	BG	BG	Rock
<i>Cleome serrulata</i>	<i>Senecio longilobus</i>	BG	BG

<i>Sphaeralcea incana</i>	BG	<i>Mentzelia</i> sp.	BG
<i>Senecio longilobus</i>	BG	BG	BG
<i>Chrysothamnus nauseosus</i>	<i>Oryzopsis hymenoides</i>	BG	Rock
<i>Sporobolus cryptandrus</i>	Litter	BG	BG
<i>Gutierrezia sarothrae</i>	Litter	BG	<i>Oryzopsis hymenoides</i>
<i>Boutelloua gracilis</i>	<i>Cleome serrulata</i>	BG	Rock
<i>Agropyron smithii</i>	<i>Oryzopsis hymenoides</i>	BG	BG
<i>Mentzelia decapetala</i>	<i>Oryzopsis hymenoides</i>	BG	BG
<i>Oryzopsis hymenoides</i>	BG	<i>Agropyron smithii</i>	BG
<i>Atriplex canescens</i>	BG	BG	BG
<i>Sparganium</i> sp.	<i>Cleome serrulata</i>	<i>Agropyron smithii</i>	BG
<i>Atriplex canescens</i>	BG	BG	Rock
Fleabane	BG	BG	BG

Average Vegetative Cover = 22%

Section 31 T13N R9W

This was a surface mine located 14 miles northwest of the Grants, New Mexico. The mine was operated by United Nuclear Corporation until termination of the lease in 1975. Open adits and shafts were backfilled and otherwise safeguarded in 1987. The site was reclaimed and reseeded by Santa Fe the fall of 1994 (Santa Fe, 1994). All structures, trash or junk had been removed from the site however, trespass dumping has since taken place. There were no piles or accumulations of toxic or waste material on the site. There were no apparent hazards that could effect public health or safety. There were minor erosion features where water had flowed into depressions. Twenty foot slopes of limestone cobble were left on the south side of the reclaimed area to blend in with a natural limestone outcropping. Several 6 foot high, 50 foot long topsoil stockpiles were left because small animals were burrowing into them and were using them for habitat. Photographs documenting vegetation and general condition of the site are presented in Appendix G.

There was evidence of grazing by livestock and wildlife on this site. Vegetation also showed signs of drought stress. Line-intercept transects showed vegetation cover to be approximately 12 percent (Young, 1995). The results of these vegetation measurements are presented in Table VI. Because of the lack of cover and diversity, staff does not recommend this site for release.

TABLE VI
Section 31 T13N R9W Vegetation Measurements

Visual	Transect #1	Transect #2	Transect #3
<i>Mirabilis multiflora</i>	Rock	<i>Oryzopsis hymenoides</i>	BG
<i>Sphaeralcea incana</i>	Rock	Rock	BG
<i>Oryzopsis hymenoides</i>	BG	BG	BG
<i>Senecio longilobus</i>	Rock	BG	BG
<i>Ceratoides lanata</i>	Rock	BG	BG
<i>Salvia</i> sp.	Rock	BG	BG
<i>Gutierrezia sarothrae</i>	BG	BG	BG
<i>Atriplex canescens</i>	BG	BG	<i>Oryzopsis hymenoides</i>
<i>Lycium pallidum</i>	<i>Salvia</i> sp.	BG	BG
<i>Sporobolus airoides</i>	Rock	BG	BG
<i>Bouteloua gracilis</i>	Litter	BG	BG
<i>Mentzelia decapetala</i>	Rock	BG	BG
<i>Agropyron smithii</i>	Rock	BG	Rock
	Rock	<i>Oryzopsis hymenoides</i>	<i>Oryzopsis hymenoides</i>
	Rock	BG	<i>Oryzopsis hymenoides</i>
	Rock	Litter	BG
	Rock	BG	Rock

Average Vegetative Cover = 12%

Faith Mine (Section 29 T13N R9W)

This underground mine was reclaimed in 1986 (Eby, 1995). Native vegetation from adjoining undisturbed lands had invaded the site and it was difficult to tell that a mine had previously existed on this site. Approximately one acre had recently been regraded and reclaimed, the only other indication of the mine presence was a revegetated mound where a vertical shaft had been backfilled with nontoxic mine waste material (Eby, 1995). All structures, trash or junk had been removed from the site. There were no piles or accumulations of toxic or waste material on the site. Similarly, there were no erosion features. Photographs documenting vegetation and general condition of the site are presented in Appendix H. Topsoil depths across the site ranged from 4 to 6 inches.

As with the other mines, the vegetation had been grazed by wildlife and domestic livestock. The vegetation also showed signs of drought stress. However, the adequate plant cover and diversity deemed it unnecessary to perform transect evaluations of the plant community. Staff recommends this site of release. The plant

community has been documented by photographs (See Appendix H).

Isabella Mine

This was a 2-acre site consisting of a head frame for underground mining. Ranchers Exploration conducted limited operations on this section under a lease from Santa Fe Pacific Minerals Corporation. The site was reclaimed in 1987, but is still accessed by a two-track road from the Old Wilcoxon Ranch. All structures, trash or junk had been removed from the site. The mine shaft had been backfilled with nontoxic mine waste material (Eby, 1995). There were no piles or accumulations of toxic or waste material on the site. There was one erosion feature, 200 feet south of the shaft site, which threatens to head cut across from an unnamed ephemeral tributary of Arroyo del Puerto running adjacent to the site. This head cut if left unchecked will eventually intercept the closed shaft. Mr. Paul Eby said that Santa Fe Pacific Gold would repair it. Photographs documenting the vegetation and the general condition of the site are presented in Appendix I. Topsoil depths across the site ranged from 4 to 6 inches.

Again, the mine site had been grazed by livestock and wildlife. Similarly, vegetation showed signs of drought stress. Line-intercept transects indicated that vegetation cover was approximately 15 percent (Young, 1995). Results of vegetation measurements are presented in Table VII. Because of the lack of plant cover, this site is not recommended for release.

TABLE VII
Isabella Mine Vegetation Measurements

Visual	Transect #1	Transect #2
<i>Oryzopsis hymenoides</i>	BG	BG
<i>Bouteloua gracilis</i>	Litter	BG
<i>Atriplex canescens</i>	BG	BG
<i>Juniperus</i> sp.	BG	BG
<i>Cleome serrulata</i>	<i>Kochia scoparia</i>	BG
<i>Agropyron smithii</i>	BG	BG
	BG	<i>Salsola iberica</i>
	BG	BG
	BG	BG
	BG	BG
	<i>Salsola iberica</i>	BG
	Litter	BG
	BG	<i>Salsola iberica</i>
	BG	<i>Kochia scoparia</i>

	BG	BG
	BG	BG
	BG	BG

Marquez Mine

This site is reached by a two-track road from a ranching complex known as the Marquez Old Home Place. It was the site of a decline shaft adit below a cliff outcropping of the Dakota Sandstone. United Nuclear leased the section from Santa Fe Pacific Minerals Corporation. Open mine features were backfilled in 1987. The site is characterized by the sand dune appearance of a mine waste pile backfilling a declined shaft adit. The site lies within San Mateo Creek Canyon, however, and the high and constant winds move soils to form sand dunes. Further, San Mateo Creek is ephemeral at this location and windblown sand from the streambed forms dunes against the cliff face. All structures, trash or junk had been removed from the site with the exception of some pipe and lumber (left at the request (Eby, 1995) of the surface lessee, Sonny Marquez). There were no piles or accumulations of toxic or waste material on the site. Photographs documenting the vegetation and general condition of the site are presented in Appendix J. The decline shaft had been backfilled with nontoxic mine waste material. Regrading of the site also included construction of terraces to break up slopes.

Topsoil depths across the site were greater than 12 inches, but consisted entirely of windblown sand. This area was essentially barren with most of the seed and mulch blown away before vegetation could be established. Native species such as Indian ricegrass (*Oryzopsis hymenoides*), from adjoining areas were starting to invade the disturbance area (Young, 1995). Because of the obvious lack of plant cover at the site no transects were attempted. Staff does not recommend release of this site.

Poison Canyon Mine

This site is characterized by an abundance of sunflowers and locoweed. The locoweed is probably a selenium accumulator for which the canyon (also known as 'Sheep Kill Canyon') was named. Reserve Oil and Minerals operated the mine under a lease from Santa Fe Pacific Minerals Corporation. Open mine features were backfilled and the mine reclaimed in 1987 upon termination of the lease. Additional reclamation of the site was conducted in 1993 and 1994 (Santa Fe, 1994). A barbed wire fence surrounded the site. All structures, trash or junk had been removed from the site. There were no piles or accumulations of toxic or waste material on the site. There were a few erosion features including one that was significant. Photographs documenting vegetation and general condition of the site are presented in Appendix K. An inclined shaft portal had been backfilled with nontoxic mine waste material (Santa Fe, 1994). The regrading of this site included construction of mounds, berms, terraces and depressions that impounded rainwater for livestock.

Topsoil depths across the site were approximately 4 inches. Line-intercept transects indicated that perennial vegetative cover was approximately 31 percent. The results of these vegetation measurements are presented in Table VIII.

TABLE VIII
Poison Canyon Vegetation Measurements

Visual	Transect #1	Transect #2	Transect #3
<i>Agropyron</i> sp.	Rock	Rock	BG
<i>Aster bigolovii</i>	BG	BG	Rock
<i>Agropyron smithii</i>	<i>Helianthus</i> sp.	BG	<i>Helianthus</i> sp.
<i>Oxytropis lambertii</i>	<i>Helianthus</i> sp.	BG	BG
<i>Mentzelia decapetala</i>	Rock	BG	BG
<i>Gutierrezia sarothrae</i>	BG	<i>Atriplex canescens</i>	Rock
<i>Linum perenne lewisii</i>	BG	<i>Agropyron smithii</i>	Rock
<i>Cleome serrulata</i>	BG	Litter	<i>Helianthus</i> sp.
<i>Melilotus officinalis</i>	BG	<i>Atriplex canescens</i>	<i>Agropyron smithii</i>
<i>Sphaeralcea coccinea</i>	<i>Oryzopsis hymenoides</i>	<i>Salsola iberica</i>	BG
<i>Helianthus</i> sp.	BG	BG	BG
<i>Oryzopsis hymenoides</i>	BG	<i>Atriplex canescens</i>	BG
<i>Hordeum jubatum</i>	<i>Helianthus</i> sp.	<i>Kochia scoparia</i>	BG
<i>Senecio longilobus</i>	Rock	<i>Oryzopsis hymenoides</i>	BG
<i>Sphaeralcea incana</i>	Rock	BG	<i>Helianthus</i> sp.
<i>Atriplex canescens</i>	BG	BG	<i>Helianthus</i> sp.
	BG	Litter	BG

Average Vegetative Cover = 27 %

Conclusions and Recommendations

Based on the inspection of the 11 mine sites, review of inspection information with Mining and Minerals Division staff and MMD's resources to conduct these inspections, it is recommended that:

the Haystack (Section 19 T13N R10W), Section 13 (T 1N R 6W) and Faith (Section 29 T13N R9W) Mines

be released from further requirements of the New Mexico Mining Act. The other mine sites:

SW1/4 of Section 13 (T 13N R11W), Section 1 (T 13W R 9W), Section 31 (T 13N R 9W), Section 7 (T13N R 9W, a.k.a. Isabella Mine), Section 23 (T 13N R 9W, a.k.a. Marquez Mine), Section 25 (T 13N R 10W), and Section 19 (T 13N R9W, a.k.a. Poison Canyon Mine)

staff has determined do not meet the environmental conditions that allow for the development of a 'self-sustaining ecosystem' as defined in Rule 1. and put forth in Rule 5.7A of the New Mexico Mining Act. Some of these site were reclaimed in July 1994, so present a situation where it is difficult to determine vegetation success. One season of growth in the areas under evaluation does not provide sufficient time to make this kind of a determination. The sites remain at a very early successional stage and contain mostly weedy species or no species.

However, based on oral communications with the operator, and on the inspected condition of these remaining reclaimed sites as documented by this inspection report, it is clear that the operator has made an effort to complete the required reclamation of these remaining sites. It is therefore recommended that the Director of MMD give a variance to Santa Fe Pacific Gold Corporation from meeting the deadline of September 30, 1995 for prior reclamation under the New Mexico Mining Act and Rules for: the SW1/4 of Section 13 (T 13N R11W), Section 1(T 13W R 9W), Section 31 (T 13N R 9W), Section 7 (T13N R 9W, a.k.a. Isabella Mine), Section 23 (T 13N R 9W, a.k.a. Marquez Mine), and Section 19 (T 13N R9W, a.k.a. Poison Canyon Mine) mine sites. This variance would stipulate that inspections will be conducted by MMD during the late summer of 1997 at each of these remaining sites to determine if the conditions necessary for development of a 'sustainable ecosystem' are then present on-site, and if any further actions including (but not limited to) reseeding or interseeding by the operator are necessary.

The Section 17 (T 13N R 9W) mine site was not adequately identified by Santa Fe Pacific Gold for inspection by MMD. The Mining and Minerals Division attempted to locate the site, but was unable to do so. Therefore, no inspection for prior reclamation status was made. This site could also be addressed under a variance.

References

- Bonham, C. D. 1989. Measurements for Terrestrial Vegetation. Wiley-Interscience. 338 pp.
- Eby, Paul G. 1995. Director-Field Operations, Santa Fe Pacific Gold Corporation, Personal Communication.
- Santa Fe (Santa Fe Pacific Gold Corporation) 1994. Prior Reclamation Request.
- Tierney, Dr. Robyn 1995. Reclamation Specialist, MMD, Field Notes.
- Young, Robert S. 1995. Environmental Engineer, MMD, Field Notes.